

PART I Authorization to Operate

- A. The permittee is authorized to operate Class V Injection Wells, at the facility described in the permit application and in the cover page of this permit, in accordance with the provisions set forth in this permit.
- B. This permit and the authorization to inject shall remain in effect until the expiration date stated on the cover page of this permit. If the permittee desires to continue injection past the expiration date of this permit, the permittee shall request a permit reissuance at least 180 days prior to expiration of this permit.

PART II Construction Requirements**A. Injection Well Requirements**

- 1. The permittee may inject only the emulsified vegetable oil, nutrients, sodium carbonate, sodium sulfate, sodium sulfite, and bacteria as described in the permit application.
- 2. The permittee shall provide a means of sampling the injection fluid prior to injection.

B. Modifications

Approval of the Alabama Department of Environmental Management (ADEM) shall be obtained prior to modification of any injection well or supporting surface. Modification shall mean any action that will change the configuration of the well beneath the surface, the methods of monitoring injection, or will result in injection of a fluid not specifically authorized by this permit.

PART III Monitoring and Operating Requirements**A. Injection Fluid**

The permittee shall not inject any substance that is defined as hazardous or toxic by Federal or State laws or regulations or any substance not identified in the applications for this permit. The proposed use of substances other than those identified in the permit application must be reviewed and approved by ADEM prior to use.

B. Monitoring Wells

- 1. The permittee shall monitor and limit groundwater in accordance with Appendix A. The injection activity shall not result in the exceedence of any established MCL in groundwater outside the areas of existing VOC contamination.
- 2. The groundwater monitoring regime must be sufficient to detect any adverse effects to groundwater quality due to the injection activity. The Department may change the sampling requirements if the sampling data indicate a need to do so.

C. Operation

The injection wells operated under this permit shall function properly and the injection fluids shall not surface. Should the injection wells fail to function properly, the permittee shall take corrective action, to include cessation of injection, as required by ADEM.

PART IV Records, Reports, & Submittals

A. Records

1. The permittee shall retain all records concerning the data used to complete the permit modification application, the operation of the wells, and the nature and composition of substances injected; to include records of the calibration of instruments, meters and gauges, quality control records, and recordings from continuous monitoring instrumentation; until at least three years after the closure of wells.
2. When requested by ADEM, the permittee shall deliver any of the records maintained in accordance with this permit.

B. Reports

1. Within 60 days after each round of injections, the permittee shall submit to ADEM written confirmation of all injection of permitted substances. The confirmations shall include the information listed below:
 - a) The dates of the injection.
 - b) The amount of each substance injected.
 - c) The location(s) of the injection.
2. Within 90 days after each groundwater monitoring event, the permittee shall submit to ADEM a ground water monitoring report. The reports shall include as a minimum:
 - a) The date, and exact place of sampling;
 - b) The complete chain of custody forms for all samples collected and
 - c) The results of each analysis performed.
3. The permittee shall report to ADEM any of the following:
 - a) Any planned action which will change the use of the injection wells, will result in injection of a fluid different from that authorized by this permit, will change the method of operations of any injection well, or will change the method of the monitoring of well operations or injected fluids.
 - b) Any planned transfer of ownership of all or part of the permitted facility.
 - c) Any relevant facts of which the permittee becomes aware which should have been submitted in a permit modification application and any corrections to data previously submitted in a permit application.

4. Other Submittals

Studies, engineering reports, plans and specifications, plugging and abandonment plans, logging reports, and other technical documents submitted to comply with this permit shall be prepared by or under the supervision of qualified persons defined by Rule 6-8-.13 of the UIC Regulations of the ADEM.

PART V Plugging and Abandonment

The permittee shall perform any abandonment and closure actions that may be required by ADEM to remove a threat to groundwater quality or to the health of persons which is caused by the injection activity.

PART VI Permit Modification, Revocation, Suspension, and Termination

- A. ADEM may impose emergency additional conditions to this permit when necessary to protect waters of the state from pollution. These conditions may include suspension of the permit to inject and shall remain in effect until the permit is modified, revoked, suspended or terminated in accordance with the UIC Regulations of the ADEM.
- B. Non-emergency permit modification, revocation, suspension, and termination actions shall be accomplished in accordance with ADEM Administrative Code Rule 335-6-8.

PART VII General Provisions

- A. The permittee shall comply with all provisions of the UIC Regulations of the ADEM and shall comply with all provisions of this permit and shall reduce or halt injection if needed to maintain compliance with the permit and regulations.
- B. The permittee shall comply with all applicable Federal and State hazardous waste management regulations.
- C. The permittee shall allow members of the ADEM staff to:
 - 1. Access property and records of the permittee for purposes of inspection.
 - 2. Collect samples of the injected fluids, process and wastewater streams associated with the permitted injection wells.
 - 3. Collect samples from any monitoring wells.
 - 4. Obtain copies of records upon request.
- D. The permittee shall immediately take all reasonable steps to minimize or correct any adverse environmental impact resulting from the operation of the permitted injection wells.
- E. This permit does not convey any property rights of any sort, or any exclusive privilege.
- F. The filing of a request by the permittee for a permit modification, revocation, and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

- G. Any noncompliance with this permit constitutes a violation of the Alabama Water Pollution Control Act and/or the Underground Injection Control Regulations and is grounds for enforcement action such as permit termination, revocation, modification; or denial of a permit renewal application.
- H. Injection to waters of the state, which in this case is groundwater, in accordance with this permit shall not result in exceedance of a Maximum Contaminant Level (MCL) established by the Environmental Protection Agency. Injection to groundwater, in accordance with this permit shall not result in a violation of a surface water quality standard.
- I. All provisions of ADEM Code Rule 335-6-8.12 are incorporated as terms and conditions of this permit by reference.

APPENDIX A

Groundwater monitoring wells shall be sampled prior to startup and then as specified by the permit application. The following sampling parameters shall be reported to ADEM after each monitoring event:

<u>GROUNDWATER CHARACTERISTIC</u>	<u>UNITS</u>	<u>DISCHARGE LIMITS</u>	<u>MONITORING REQUIREMENTS</u>	
			<u>FREQUENCY</u>	<u>SAMPLE TYPE</u>
pH	standard units	Report	*	Grab
Sulfate	mg/L	Report	*	Grab
Nitrate	mg/L	10	*	Grab

*The Monitoring Frequency shall be in accordance with the permit application

ADEM Permit Rationale

Date: November 10, 2021

Prepared by: Jessica Spence

Permit Applicant: U.S. Army Garrison-Redstone
Attn. Joey Skinner
4488 Martin Road
Redstone Arsenal, AL 35898-5000

Facility Name: Redstone Arsenal RSA-003

Location: Building 3617
Redstone Arsenal
Madison County, Alabama
Lat: N 34.672195/W -86.634019
Town 4S, Range 1 W, Section 21

UIC Permit Number ALSI9945752

Draft Permit is: Reissuance due to expiration

Injection Description: Injection of bioremediation compounds to aid in the
remediation of existing groundwater contamination

Discussion: Standard permit drafted.

1. No hazardous injection
2. Sampling point required
3. Groundwater sampling required

